

# A New Species of the Genus *Isolabis* Verhoeff (Dermaptera: Anisolabididae: Isolabidinae) from Ishigaki-jima, Southwestern Japan

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**Abstract** A new anisolabidid earwig of the genus *Isolabis* is described from Ishigaki-jima, Japan with the illustration of salient features to distinguish it from the related Oriental species. This is the second species of the genus *Isolabis* from the Oriental Region and the first record of the subfamily Isolabidinae from Japan.

## Introduction

Ishigaki-jima is the second largest island of the Yaeyama Island group of the Ryukyu Islands, Japan, lying about 270 km northeast of Taiwan.

The anisolabidid genus *Isolabis* Verhoeff, 1902 belongs to the subfamily Isolabidinae Verhoeff [= Isolabiinae Steinmann (1975, 1989a) and Isolabinae Steinmann (1989b)], and is represented by 18 species (including two uncertain species) in the world (Steinmann, 1989a, 1989b; Srivastava, 1999). In the Oriental Region, only one species, *I. ocellata* Srivastava, 1979, has hitherto been known from Myanmar. In the course of my study on Japanese Dermaptera, an obvious new species having a close relationship to *I. ocellata* was found. This is the second species of the genus occurring in the Oriental Region and the first record of the subfamily from Japan, and will be described in this paper under the name, *Isolabis ishigakiensis* Nishikawa, sp. nov.

## Materials and Methods

Since distal abdominal segments of isolabidine species are especially telescoped and hidden into the preceding segments, the actual body length fairly differs from it in dried condition. The newly collected specimens (one male and one female) of the new species were measured immediately after killing. The measurements of flesh specimen gotten by this way are separately shown in the description below. Terminology of the male genitalia follows Hincks and Popham (1970). The holotype and paratypes are deposited in the collection of Ehime University Museum, Matsuyama, Japan (EUMJ).

***Isolabis ishigakiensis*** Nishikawa, sp. nov.  
[Japanese name: Ishigaki-higebuto-hasamimushi]  
(Figs. 1–11)

Length of body with forceps in dried specimens: male, 6.3–7.0 mm; female, 6.0–8.6 mm.

Length of body (without forceps) in flesh specimen: male (Fig. 1), 7.3 mm; female (Fig. 2), 8.3 mm. Length of forceps in flesh specimen: 1.2 mm in both sexes (Figs. 1, 2).

Colour and texture: General colour dark brownish black; antennae brown to dark brown, with one or two pre-apical segments paler (in right antenna of one male specimen, 6th

to 9th segments paler); Legs yellowish with femora dark brownish black in basal two thirds. Cuticle densely and somewhat rugosely punctured and pubescent, rather dull; hairs short and yellow.

Male (Figs. 1, 3): Head longer than broad, broadest across eyes; lateral margins slightly rounded and curving smoothly into posterior margin which is almost straight; frontal



Figs. 1–4. *Isolabis ishigakiensis* sp. nov. — 1–2, Fresh specimens photographed immediately after killing; 3–4, dried specimens; 1, male, paratype; 2 & 4, female, allotype; 3, male, holotype.



Figs. 5–9. *Isolabis ishigakiensis* sp. nov. — 5, Right side of abdomen, dorso-lateral view, showing a large hairless area (arrow) on 5th tergite; 6, ultimate tergite and forceps of male; 7, penultimate sternite of male; 8, penultimate sternite of female; 9, male genitalia, holotype.



Figs. 10–11. Photographs of habitat and a male of *Isolabis ishigakiensis* sp. nov. — 10, Habitat at foot of Mt. Omotodake, a male was found under this stone (arrow); 11, a male under stone.

suture faintly marked; coronal suture indistinct. Eyes small, about as long as half of the post-ocular length. Antennae 12-segmented (12 segments in the left and 11 segments in the right recognizable in holotype), 1st stout, expanded apically, longer than the distance between antennal bases; 2nd minute, as long as broad; 3rd short, a little broader than long, about 1/5 times as long as 1st; 4th short, about as long as broad, shorter than 3rd; 5th to 10th gradually increasing in length and breadth. Pronotum transverse, broader than head, broadened posteriorly; convex anteriorly in middle; sides almost straight, gently reflexed but curving to the posterior angles; posterior margin rounded; median sulcus weakly marked in the anterior half; prozona with two pairs of feeble longitudinal elevations on anterior portion; metazona weakly raised. Mesonotum transverse, almost truncate or feebly emarginate posteriorly, with sides smooth; metanotum transverse, deeply emarginate posteriorly. Legs long, slender; hind tarsi with 1st segment longer than the combined length of 2nd and 3rd, 2nd nearly 5/6 length of the 3rd. Abdomen fusiform, more or less depressed or moderately convex; lateral tubercles on 3rd and 4th tergites weakly developed; 5th tergite with a pair of large hairless area (Fig. 5) just behind the lateral tubercles of 4th tergite. Ultimate tergite and pygidium usually hidden under preceding tergite in the dried specimens (Fig. 3); when visible (Fig. 1), ultimate tergite (Fig. 6) is transverse, prominent on each side above forceps, concave in middle, and oblique laterally; pygidium narrowed apically, with apex rounded. Penultimate sternite (Fig. 7) transverse, with posterior margin sinuate; disc longitudinally depressed at middle. Forceps symmetrical, with arms nearly contiguous, trigonal, tapering, gently arcuate towards the apex. Genitalia (Fig. 9) with parameres short and narrow, recurved, broadest at base, narrowed and acuminate apically; distal lobes with long, simple, well-sclerotized virga and associated with elongated,

sclerotized and denticulated armatures.

Female (Figs. 2, 4): Similar to male, but penultimate sternite (Fig. 8) rounded posteriorly.

Type series. JAPAN: Ishigaki-jima: Holotype: 1♂, Mt. Yarabu-dake, Sakieda, 19. IV. 2013, M. Nishikawa & T. Hanatani leg. (genitalia mounted in Glycerin on a glass slide). Allotype: 1♀, Foot of Mt. Omoto-dake, 30. I. 2013, Taku Shimada leg. Paratypes: 1♂, same locality as for the holotype, 14. IV. 2013, M. Nishikawa & T. Hanatani leg. (genitalia and distal parts of abdomen from penultimate segment placed in glycerin-filled plastic tubes separately and attached to the same pin as the specimen); 1♂, same locality as for the holotype, 8. VII. 2010, Shota Shimizu leg. (broken genitalia placed in a glycerin-filled plastic tube and attached to the same pin as the specimen); 1♂, Banna Park, 16. IX. 2004, Hiroki Sato leg. (genitalia not removed from the body); 1♀, Sokobaru River, Miyara, 18. IV. 2007, Shota Shimizu leg.; 1♀, Sokobaru River, Miyara, 9. X. 2007, Shota Shimizu leg.; 1♀, Foot of Mt. Omoto-dake (N241127, E1241127, 146 m), 26. II. 2012, Taku Shimada leg.; 1♀, Foot of Mt. Omoto-dake (N242441, E1241127, 110 m), 26. II. 2012, Taku Shimada leg.

Distribution. Japan (Ishigaki-jima).

Etymology. The species epithet is derived from the type locality.

Biology. Two males and five females were captured under stones. One male was captured in rotten tree.

Remarks. This new species is allied to *Isolabis ocellata* Sirvastava, 1979 distributed in Myanmar, but it is easily distinguishable from the latter in having the smaller eyes (a little over twice as long as the post-ocular length in the latter) and the sinuate posterior margin of male penultimate sternite (rounded but deeply incised in middle in the latter).

## Acknowledgments

I wish to express my sincere thanks to Prof. Dr. Masahiro Sakai of Ehime University Museum for his critical reading the original draft of this paper. Thanks are also due to Dr. Shota Shimizu (Sugadaira Montane Research Center, University of Tsukuba), Mr. Hiroki Sato (Tokyo) and Mr. Taku Shimada (Tokyo) for their kind offering valuable specimens and biological information, and to Mr. Tatsuo Hanatani (Ishigaki-jima) and his wife, Tomoko, for their invaluable support of my field work on Ishigaki-jima.

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[Received: July 14, 2014; accepted: October 10, 2014]